

DISCUSSION OF THE CLAIMS

Claims 1-26 and 28-34 are active in the present application. Claim 27 is a canceled claim. Claims 32-34 are new claims. Support for new Claim 32 is found in previously presented Claim 12. Support for new Claims 33 and 34 is found throughout the specification, for example, pages 13 and 18. The claims are further amended herein for matters of form.

No new matter is added.

REMARKS/ARGUMENTS

Present independent Claim 1 is drawn to a membrane that includes a ceramic coating present on a polymeric nonwoven. The ceramic coating contains first and second oxide fractions. The second oxide fraction comprises a silicon network that is bonded to (i) the oxides of the ceramic coating, (ii) the polymeric nonwoven and (iii) a further silicon atom. Applicants submit that the membrane of present Claim 1 is not disclosed or suggested by the art relied on by the Office in the December 22, 2008 Office Action.

The Office asserts that CA'062 (CA 2 477 062) discloses a membrane having the silicon network recited in the present claims. The Office cites to page 15 as evidence that this feature of the presently claimed invention is disclosed in CA'062. Applicants submit that the Office's assertion is not correct.

The Office relies on the following disclosure bridging pages 15 and 16 as evidence that CA'062 discloses a silicon network having silicon atoms bonded by a carbon chain:

In a particular embodiment of the process according to the present invention, the above adhesion promoters are applied to the substrate, especially to the polymeric nonwoven, in a preceding step. To this end, the adhesion promoters are dissolved in a suitable solvent, for example ethanol. This solution may additionally include a small amount of water, preferably from 0.5 to 10 times the molar amount of the hydrolyzable group, and small amounts of an acid, for example HCl or HNO₃, as a catalyst for the hydrolysis and condensation of the Si-OR groups.

Nothing in the paragraph bridging pages 15 and 16 of CA'062 suggests or discloses the silicon network of the present claims.

The Office erroneously implies that "the hydrolysis and condensation of the Si-OR groups" leads to the formation of a silicon network having silicon atoms bonded by carbon chains. Such an interpretation of the disclosure of CA '062 is not correct. The hydrolysis and condensation of Si-OR groups leads to the formation of polysiloxanes, e.g., compounds

having groups of formula Si-O-Si. Such a group does not contain silicon atoms bonded by a carbon chain.

The hydrolysis and condensation of Si-OR groups forms a product having silicon atoms bonded by oxygen atoms. As support that the hydrolysis and condensation of Si-OR groups does not form the silicon network recited in the present claims, Applicants submit herewith a technical publication obtained from www.dowcorning.com titled "A Silane Primer: Chemistry and Applications of Alkoxy Silanes." Applicants draw the Office's attention to the figures in the left-hand column on page 2 of the attached technical publication. The attached figure clearly shows that hydrolysis and condensation of Si-OR group leads to the formation of a polysiloxane, i.e., a compound having a plurality of Si groups where the Si groups are bonded to one another through O atoms, not carbon chains.

Applicants submit that the rejection of the claims over CA '062 is not supportable in view of the fact that the cited art does not disclose or suggest the silicon network recited in the present claims.

The Office also rejected the claims as obvious in view of Davidson (US 5,605,628). On page 5 of the December 22 Office Action the Office acknowledges that Davidson fails to teach the silicon network of the present claims (see page 5, lines 2-3 of the December 22 Office Action). The Office relies on CA'062 as support that it would be obvious to use such a silicon network in the invention of Davidson to arrive at the presently claimed invention. As discussed above in detail above, CA'062 does not disclose the silicon network of the present claims and thus the rejection of the present claims as obvious over CA'062 alone or in combination with Davidson is not legally supportable and should be withdrawn.

The Office also rejected the claims for obviousness-type double patenting in view of co-pending U.S. Applications 10/524,143 and 10/524,669. In both cases, the Office relies on the disclosure of CA '062 as evidence that it would be obvious to include the silicon network

recited in the present claims in the invention claimed in the co-pending applications. As explained above, CA'062 fails to disclose or suggest the silicon network recited in the present claims. Thus, the rejection of the present claims for obviousness-type double patenting in view of co-pending 10/524,143 or 10/524,669 both in combination with CA'062 is not supportable and the rejection should be withdrawn.


The Office rejected Claim 1 for indefiniteness for the reason that Claim 1 is unclear by reciting "at least one oxide" and further reciting first and second fractions of oxides. Applicants submit Claim 1 is readily understandable to those of skill in the art. Claim 1 first recites a ceramic coating that comprises at least one oxide. The oxide of the ceramic coating is present in different fractions. The first and second fractions recited in Claim 1 are explicitly defined therein. Claim 1 therefore encompasses embodiments wherein a ceramic coating contains only one oxide, e.g., an Al_2O_3 oxide that has a first fraction that is different from a second fraction. The first fraction must be obtained from a sol whereas the second fraction must have certain average particle size. The first and second fractions may be the same base oxides but must be of different form. Thus, there is nothing unclear with respect to one oxide having fractions of different forms present in the ceramic coating of Claim 1. Applicants request withdrawal of the rejection.

Respectfully submitted,

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